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CROWELL & MORING LLP
INTELLECTUAL PROPERTY GROUP
P.O. BOX 14300
Washington, DC 20044-4300

| EXAMINER | |
|---|---|
| CHAN, ALEX H | |
| **ART UNIT** | **PAPER NUMBER** |
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Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. 09/623,895 | Applicant(s) SMUK ET AL. | |
|---|---|---|---|
| | Examiner Alex H Chan | Art Unit 2633 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *16 November 2000*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *6-10* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *6-10* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *16 November 2000* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

## DETAILED ACTION

### *Drawings*

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the opto-electronic transducer and error signal in claim 6, relative and base value in claim 7 and memory in claim 8 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: "star coupler K (page 3, line 11)". A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference sign(s) not mentioned in the description: "D" and "μC" of Fig. 1 A proposed drawing correction, corrected drawings, or amendment to the specification to add the

reference sign(s) in the description, are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

### *Claim Rejections - 35 USC § 112*

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. **Claim 7** is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. In particular, applicant does not provide sufficient information as to how a "relative value" of output electrical signal is determined in the specification/description. Also, applicant also fails to describe how the relative value is determined to b less than the base value.

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. **Claim 6** is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the

invention. In particular, applicant does not distinctly point out which "second means" determines a relative value and outputs a second electrical signal as an error signal as well as to which predetermined value is compared with the relative value. .

8. **Claim 7** is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In particular, applicant does not distinctly point out how "comprising said relative value to a base value" is carried out and to which base value the relative value is being compared.

*Claim Rejections - 35 USC § 102*

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

10. **Claims 6-7 (as far as understood)** are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 5,859,716 to O'Sullivan et al (hereinafter O'Sullivan).

**Regarding claim 6 (as far as understood)**, O'Sullivan discloses a communication arrangement for connecting together a plurality of nodes (60 and 60 of Fig. 1), said arrangement comprising: at least one opto-electronic transducer (33 of Fig. 2) each connected to one of said plurality of nodes (via 10, 20, 30 and 40 of Fig. 1), each transducer including a means for generating an electrical output signal in response to an optical input signal from one of said nodes (Col. 5, lines 60-67); and a second means (8 of Fig. 2 or 66 and 69 of Fig. 3) for determining a relative value of said electrical output signal, wherein said second means outputs a second electrical signal as an error signal (e.g. 40 or 58 of Fig. 1) when said relative value of said electrical signal is less than a predetermined value (Col. 5, line 66-Col. 6, line 17, Col. 6, lines 52-54, Col. 7, lines 25-48).

**Regarding claim 7 (as far as understood)**, O'Sullivan discloses all limitations as discussed above, and further discloses determining a relative value of said output electrical signal (e.g. by determining the ratio of energy); comprising said relative value to a base value (e.g. by comparing the received dither with transmitted dither); and outputting an error signal when said relative value is less than said base value (e.g. by recognizing a fault, Col. 12, lines 49-60).

11. **Claims 6-10 (as far as understood)** are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,617,238 to Bogdan et al (hereinafter Bodgan).

**Regarding claim 6 (as far as understood)**, Bogdan discloses a communication arrangement (Fig. 3) for connecting together a plurality of nodes (e.g. 20, 200, 210, 70, 250160 and 170), said arrangement comprising: at least one opto-electronic transducer (20) each connected to one of said plurality of nodes, each transducer including a means for generating an electrical output signal in response to an optical input signal from one of said nodes (Col. 1, line-58-Col. 2, line 5); and a second means (e.g. 40) for determining a relative value of said electrical output signal, wherein said second means outputs a second electrical signal as an error signal (e.g. DIDO4) when said relative value of said electrical signal is less than (i.e. below receiver threshold level) a predetermined value (Col. 6, lines 32-40).

**Regarding claim 7 (as far as understood)**, Bogdan discloses all limitations as discussed above, and further discloses determining a relative value of said output electrical signal (e.g. 220); comprising said relative value to a base value (e.g. by comparing corresponding digital electrical signal generated by 120, Col. 7, line 65-Col. 8, lines 4 or by threshold voltage commanded by 70, Col. 10, lines 65-67); and outputting an error signal when said relative value is less than said base value (e.g. by detecting error in the eye diagram, Col. 11, lines 34-46).

**Regarding claims 8-10**, Bogdan discloses wherein said error signal is stored in a memory and the step of reading out a status of said memory element (via 70 of Fig. 3) and wherein said memory element is addressable (via GPIB and DIDO4 of 70, 80 and 90 of Fig. 3).

12. **Claim 6 (as far as understood)** is rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,259,704 B1 to Asahina et al (hereinafter Asahina).

**Regarding claim 6 (as far as understood)**, Asahina discloses a communication arrangement for connecting together a plurality of nodes (Fig. 9), said arrangement comprising: at least one opto-electronic transducer (211 of Fig. 19) each connected to one of said plurality of nodes, each transducer including a means for generating an electrical output signal in response to an optical input signal from one of said nodes (Col. 8, lines 60-64); and a second means (102, 103 and 105 of Fig. 10) for determining a relative value of said electrical output signal, wherein said second means outputs a second electrical signal as an error signal (e.g. by detecting input signal level abnormal signal, Col. 9, lines 47-64) when said relative value of said electrical signal is less than a predetermined value (e.g. depending upon error condition via 351 of Fig. 12, Col. 10, lines 12-22).

13. **Claims 6-8 (as far as understood)** are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,025,946 to Miyamori et al (hereinafter Miyamori).

**Regarding claim 6 (as far as understood)**, Miyamori discloses a communication arrangement (Fig. 24) for connecting together a plurality of nodes (301-304), said arrangement comprising: at least one opto-electronic transducer (8a) each connected to one of said plurality of nodes, each transducer including a means for generating an electrical output signal in response to an optical input signal from one of said nodes (Col. 9, lines 46-59); and a second means (58 of Fig. 14 or 91, 92 and 93 of Fig. 17) for determining a relative value of said electrical output

signal, wherein said second means outputs a second electrical signal as an error signal (e.g. abnormality signal) when said relative value of said electrical signal (e.g. count value of counter 91 and 92) is less than a predetermined value (e.g. Col. 23, lines 57-61).

**Regarding claim 7 (as far as understood)**, Miyamori discloses all limitations as discussed above, and further discloses determining a relative value of said output electrical signal (e.g. by checking count value); comprising said relative value to a base value (e.g. via comparing count value of 91 and 92); and outputting an error signal when said relative value is less than said base value (e.g. if counter 91 deviates from count value of counter 92 or judges if that the difference between these two counters is within predetermined error, Col. 23, line 61-Col. 24, line 4).

**Regarding claims 8**, Miyamori discloses wherein said error signal is stored in a memory (memory inside counter 91, 92 and 93).

14. **Claims 6-10 (as far as understood)** are rejected under 35 U.S.C. 102(b) as being unpatentable over U.S. Patent No. 5,541,759 to Neff et al (hereinafter Neff).

**Regarding claims 6-7 (as far as understood)**, Neff discloses a communication arrangement for connecting together a plurality of nodes (Fig. 1a and 1b), said arrangement

comprising: at least one opto-electronic transducer each connected to one of said plurality of nodes, each transducer including a means for generating an electrical output signal in response to an optical input signal from one of said nodes (via 220L and 506L of Fig. 5); and a second means (526) for determining a relative value (e.g. marginal received optical power) of said electrical output signal, wherein said second means outputs a second electrical signal as an error signal (e.g. via setting warning latch) when said relative value of said electrical signal is less than a predetermined value (e.g. by comparing the actual pulse width with expected pulse width to determine the magnitude of pulse width distortion, Col. 9, lines 38-56).

**Regarding claims 8-10**, Neff discloses wherein said error signal is stored in a memory and step of reading out a status of said memory element that is addressable (Fig. 8c and 9c or via 240a and 240b of Fig. 2).

### *Claim Rejections - 35 USC § 103*

15. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

16. **Claims 8-10** are rejected under 35 U.S.C. 103(a) as being unpatentable over O'Sullivan in view of U.S. Patent No. 5,418,785 to Olshansky et al (hereinafter Olshansky) or U.S. Patent No. 4,731,880 to Ault et al (hereinafter Ault).

**Regarding claims 8-10**, O'Sullivan does not discloses wherein said error signal is stored in a memory, step of reading out a status of said memory element and that said memory element is addressable. Olshansky discloses wherein said error signal is stored in a memory, step of reading out a status of said memory element and that said memory element is addressable (Fig. 2 and Col. 4, lines 10-68). Likewsie, Ault discloses wherein said error signal is stored in a memory, step of reading out a status of said memory element and that said memory element is addressable (via 130 of Fig. 1, Col. 2, lines 7-64, Col. 5, lines 1-63). Accordingly, one of ordinary skilled in the art would have been motivated to employ the above means for monitoring the network for error conditions and responding to a detected error condition to inhibit transmission (Col. 2, lines 17-22, Ault). Therefore, it would have been obvious to one of artisan skilled in the art at the time the invention was made to modify the optical transmission system of O'Sullivan by incorporating the above means because this provides for monitoring the network for error conditions and responding to a detected error condition to inhibit transmission as taught by Ault.

*Conclusion*

17. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Taga et al is cited to show an opto-electronic transducer (signal detector), comparator

and decision threshold for detecting and outputting bit error count signal (Fig. 2-3 and Col. 4, lines 10-51). Nagakubo et al is cited to show a photoelectric transducer with monitor signal for determining error (Fig. 1). Masuda is cited to show a light receiving unit comprising an error measuring device for measuring error (Fig. 1). Canestri et al is cited to show a fiber optic receiver coupled with end of message pulse detector for detecting voltage level (Fig. 5-7 ad 9).

18. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alex H Chan whose telephone number is (703)305-0340. The examiner can normally be reached on Monday to Friday (8am to 6pm EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on (703)305-4729. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

19. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Alex Chan

Patent Examiner, AU 2633
February 17th, 2004